



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,680	11/27/2001	Ludovic Noirie	Q67255	7290

7590

08/01/2003

SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC  
Suite 800  
2100 Pennsylvania Avenue, N.W.  
Washington, DC 20037-3213

EXAMINER

ROJAS, OMAR R

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 08/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/993,680

Applicant(s)

NOIRIE ET AL.

Examiner

Omar Rojas

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The prior art documents submitted by applicant in the Information Disclosure Statement(s) filed on November 27, 2001 have all been considered and made of record (note the attached copy of form(s) PTO-1449).

### ***Specification***

3. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

4. Claims 1 and 6 are objected to because of the following informalities: The use of the term "a multiplex" as found in claims 1 and 6 appears to be somewhat vague and not in conformance with standard usage in the art. The examiner suggest the use of the term "a multiplexed signal" instead. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

Art Unit: 2874

granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

**6. Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. 5,748,350 to Pan et al. ("Pan"), provided by Applicants.**

Regarding claim 1, as seen in Figs. 8A-8B, Pan discloses an optical demultiplexing system which has three levels of granularity and includes  $m=n$  interleaved bands of wavelengths which include  $p=4n$  wavelengths, which system further includes a 1-to- $m$  deinterleaving demultiplexer (143) and a 1-to- $p$  deinterleaving demultiplexer (145<sub>n</sub>). Note that the numbers  $m=n$  and  $p=4n$  used in Pan would differ depending on the number of output fibers used in each unit (145<sub>n</sub>), i.e., "p" could be equal to  $3n$  as well. Thus, having a mutually prime  $m$  and  $p$  would be inherent in Pan. See also columns 8-9.

Regarding claim 6, Pan also discloses a multiplexing system in Figs. 7A-7B which substantially meets all the recited limitations in view of the previous remarks.

Art Unit: 2874

**7. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by EP 1043859 to Miyachi et al. ("Miyachi"), also provided by Applicants.**

Regarding claims 1-5, Miyachi discloses (e.g., see Figs. 13-15) an optical demultiplexing/multiplexing system which has three levels of granularity and includes  $m=M$  interleaved bands of wavelengths which include  $p=K$  wavelengths, which system further includes a 1-to- $m$  deinterleaving demultiplexer (113) and a 1-to- $p$  deinterleaving demultiplexer (114). Note that the numbers  $m=M$  and  $p=K$  used in Miyachi would inherently differ depending on the number of wavelength channels used. Thus, having a mutually prime  $m$  and  $p$  would be inherent in Miyachi. The demultiplexer (113) also has a periodic transfer function and is based on an arrayed waveguide grating (AWG). Likewise, the demultiplexer(s) (114) are similar to first demultiplexer (113) and thus would inherently be periodic and based on an AWG as well, but have a broader transmission bandwidth as disclosed by Miyachi. See also pg. 13, line 21 to pg. 14, line 16.

Regarding claim 6, Miyachi also discloses a multiplexing system using first (116) and second (117) multiplexers which substantially meets all the recited limitations in view of the previous remarks concerning Miyachi.

***Conclusion***

8. Since the Pan and Miyachi references used in the above rejection were submitted by applicant in the prior art statement, no copies thereof are provided with this Office action.

Art Unit: 2874

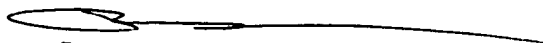
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omar Rojas whose telephone number is (703) 305-8528 and whose e-mail address is *omar.rojas@uspto.gov*. The examiner can normally be reached on Monday-Friday (7:00AM-3:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hemang Sanghavi, can be reached on (703) 305-3484. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722 for regular communications. The examiner's personal work fax number is (703) 746-4751.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Omar Rojas  
Patent Examiner  
Art Unit 2874

or  
July 14, 2003



Rodney Boevernick  
Supervisory Patent Examiner  
Technology Center 2800